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14. ABSTRACT Hill Air Force Base (AFB) proposes to provide adequate facilities for hobby enthusiasts, including automotive maintenance, engraving, framing, and woodworking. The findings of this EA indicate that the proposed action would not have significant adverse effects on the human environment or any of the environmental resources as described in the EA. Therefore, it is concluded that a Finding of No Significant Impact is justified.						
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Hill Air Force Base, Utah

Final

**Environmental Assessment:
Proposed Automotive/Arts and Crafts Skills
Center, Hill Air Force Base, Utah**

October 14, 2010

Final
**Environmental Assessment (EA):
Proposed Automotive/Arts and Crafts Skills
Center, Hill Air Force Base, Utah**

**Contract No. FA8201-09-D-0006
Delivery Order No. 0021**

**Department of the Air Force
Air Force Materiel Command
Hill Air Force Base, Utah 84056**

October 14, 2010

Prepared in accordance with the Department of the Air Force Environmental Impact Analysis Process (EIAP) 32 CFR Part 989, Effective July 6, 1999, which implements the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality (CEQ) regulations.

EXECUTIVE SUMMARY

Purpose and Need

The purpose of the proposed action is to provide adequate facilities for hobby enthusiasts, including automotive maintenance, engraving, framing, and woodworking.

According to a Hill Air Force Base (AFB) internal needs validation study, the existing facility exhibits the following deficiencies:

- the facility is undersized by 10,000 square feet,
- sufficient parking is not available,
- heating/cooling/plumbing systems are inadequate,
- safety hazards endanger shop users, and
- an additional 50,000 customer visits per year should be accommodated.

Selection Criteria

The automotive/arts and crafts skills center on Hill AFB should:

- be located in the community area as defined in the Hill AFB general plan;
- provide sufficient area for 22,300 ft² of structures, plus driveways and parking;
- not encroach upon existing facilities;
- not encroach upon other previously approved construction perimeters for upcoming base facilities; and
- be adjacent to existing utilities.

Scope of Review

During a scoping meeting and subsequent interactions, the following environmental issues were addressed:

- air quality,
- solid and hazardous wastes (including liquid waste streams),
- biological resources,
- geology and surface soils,
- water quality,
- cultural resources,
- occupational safety and health,
- air installation compatible use zone (AICUZ), and
- socioeconomic resources.

The issues that were identified for detailed consideration are: air quality, solid and hazardous wastes (including liquid waste streams), and water quality.

Alternatives Considered in Detail

Alternative A (No Action Alternative) - Under the no action alternative, a new automotive/arts and crafts skills center would not be constructed, and adequate facilities would not be provided. The existing facility would operate as it currently exists. Deficiencies would continue to exist.

Alternative B (Proposed Action - Construct an Automotive/Arts and Crafts Skills Center West of F Avenue on Hill AFB) - The proposed action would include:

- footings and foundations to support a structural steel shell (25,100 ft² of building space);
- all utilities including mechanical and electrical systems;
- parking, concrete sidewalks, and landscaping; and
- connections to adjacent buried utilities consisting of water, electricity, natural gas, telephone/data, sanitary sewer, and storm drains.

No demolition is currently planned. Building 534 would remain vacant until a new use is identified for it.

Decisions That Must Be Made

Hill AFB must decide whether to:

- not provide a new automotive/arts and crafts skills center (no action), or
- provide a new automotive/arts and crafts skills center.
- If the decision is to construct a new automotive/arts and crafts skills center, then a decision must be made as to where the facility will be located.

If Hill AFB decides to construct a new automotive/arts and crafts skills center, the proponent and environmental managers would comply with the best management practices indicated in this environmental assessment. Further, within 90 days of a written decision pursuant to this environmental assessment, the proponent and environmental managers would then decide if additional monitoring plans and measures, if any, should be implemented.

Results of the Environmental Assessment

Alternatives A and B were considered in detail. The results of the environmental assessment are summarized in the following table.

Summary Comparison of Predicted Environmental Effects

Issue	Alternative A No Action	Alternative B Proposed Action
Air Quality	The existing facility has air emissions from welding, various spray cans, a parts washer, and woodworking. Existing air emissions are 0.12 tons per year or less of each criteria pollutant, and eight pounds of HAPs.	Construction equipment would create temporary emissions. Fugitive dust emissions would be controlled. Criteria pollutant emissions are predicted to rise by much less than one ton per year. Emissions of HAPs are predicted to rise by only a few pounds per year. Conformity with the Clean Air Act was demonstrated.
Solid and Hazardous Waste	Solid and liquid wastes are properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater flows to an existing sanitary sewer.	If contaminated soils or pavements are identified, they would be properly handled during the construction process. Operational activities would generate the same types of waste as the existing facility, with the addition of used transmission fluid. Solid and liquid wastes would all be properly contained, stored, transported, disposed, re-used, and/or recycled. Use of an oil-water separator would reduce the amount of oil and grease flowing to the local sewage treatment plant.
Water Quality	No effects.	During construction and operations, water quality would be protected by implementing stormwater management practices. Precipitation from the 95th percentile, 24 hour storm event would be retained on site. Drinking water sources would be protected by incorporating good housekeeping measures and other best management practices into facility design and operations.

Identification of the Preferred Alternative

Hill AFB prefers Alternative B (the proposed action).

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LIST OF ACRONYMS AND CHEMICAL TERMS

AFB	Air Force Base
AFOSH	Air Force Occupational Safety and Health
AICUZ	Air Installation Compatible Use Zone
ALC	Air Logistics Center
APE	Area of Potential Effect
bgs	Below Ground Surface
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
DAQ	Division of Air Quality (Utah)
DRMO	Defense Reutilization and Marketing Office
DWSP	Drinking Water Source Protection
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EPA	Environmental Protection Agency (United States)
FONSI	Finding of No Significant Impact
ft ²	Square Feet
HAP	Hazardous Air Pollutant
hr	Hour
lb	Pound
MBTA	Migratory Bird Treaty Act
MWR	Morale Welfare and Recreation
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO _x	Oxides of Nitrogen
NRHP	National Register of Historic Places

O ₃	Ozone
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
PM-10	Particulates Smaller Than 10 Microns in Diameter
PM-2.5	Particulates Smaller Than 2.5 Microns in Diameter
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
SO _x	Oxides of Sulfur
SWPPP	Stormwater Pollution Prevention Plan
UAC	Utah Administrative Code
UGS	Utah Geological Survey
USAF	United States Air Force
USC	United States Code
VOC	Volatile Organic Compound
WFRC	Wasatch Front Regional Council
yr	Year

1 PURPOSE OF AND NEED FOR ACTION

1.1 Introduction

Hill Air Force Base (AFB) is located approximately 25 miles north of downtown Salt Lake City and seven miles south of downtown Ogden, Utah (Figure 1). Hill AFB is surrounded by several communities: Roy and Riverdale to the north; South Weber to the northeast; Layton to the south; and Clearfield, Sunset, and Clinton to the west. The base lies primarily in northern Davis County with a small portion located in southern Weber County.

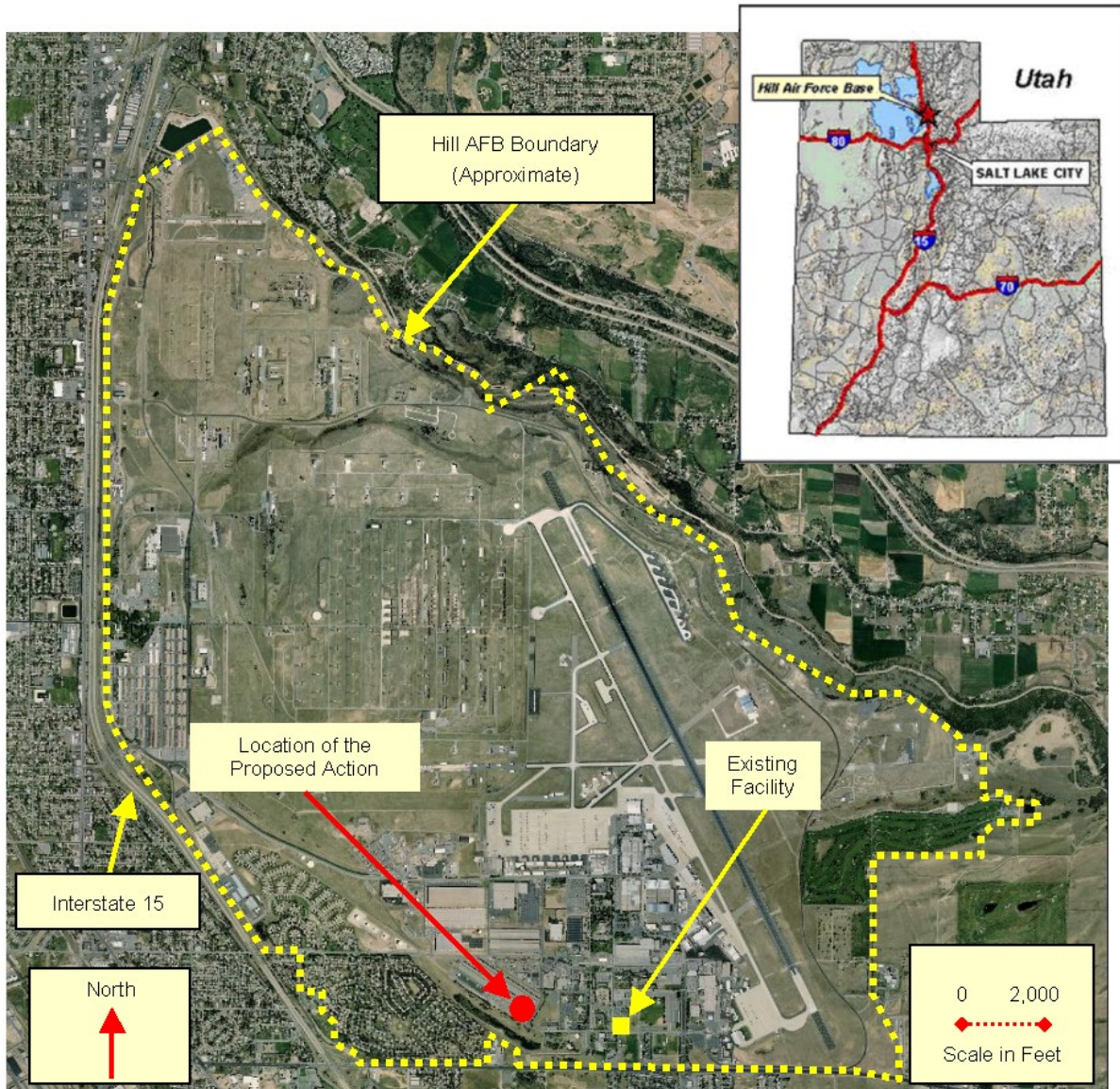


Figure 1: Location of the Proposed Action on Hill AFB

Hill AFB is an Air Logistics Center (ALC) that maintains aircraft, missiles, and munitions for the United States Air Force (USAF). In support of that mission, Hill AFB: provides worldwide engineering and logistics management for the F-22 Raptor, F-35 Joint Strike Fighter, F-16 Fighting Falcon, and A-10 Thunderbolt; accomplishes depot repair, modification, and maintenance of the F-16, A-10 Thunderbolt, and C-130 Hercules aircraft; and overhauls and repairs landing gear, wheels and brakes for military aircraft, rocket motors, air munitions, guided bombs, photonics equipment, training devices, avionics, instruments, hydraulics, software, and other aerospace-related components.

The 75th Force Support Squadron (75 FSS) provides a variety of programs on Hill AFB that are intended to foster unit and community cohesion, support family well-being, and improve the quality of life for the Hill AFB community. In support of that goal, 75 FSS operates an existing automotive/arts and crafts skills center in Building 534, located in the south central portion of Hill AFB (Figure 1).

1.2 Purpose of the Action

The purpose of the proposed action is to provide adequate facilities for hobby enthusiasts, including automotive maintenance, engraving, framing, and woodworking.

1.3 Need for the Action

According to a Hill AFB internal needs validation study (Hill 2008), the existing facility exhibits the following deficiencies:

- The facility is undersized (12,853 square feet [ft²] of space versus the need for 22,300 ft² or more). Cramped conditions exist. Classroom space is not sufficient, and working areas are too small to meet operational requirements. Presently there are less than 200 ft² of storage space, but the facility should have 2,000 ft² of such space to function properly. There is no office space for the building manager, who currently works in an area that was originally constructed as closet.
- Due to implementing current force protection standards, one third of the parking lot was lost. Additionally, portions of the parking lot are used by patrons of the nearby fitness center, further reducing available parking for facility customers, many of whom are now driving in and leaving due to lack of parking.
- Heating and cooling systems are outdated and inadequately sized. Pipes in the ceiling are corroded and leaking, and the bathroom plumbing often backs up due to an undersized connection to the sanitary sewer.
- Safety hazards have been identified in the shop areas related to improper spacing between various pieces of equipment.
- The facility is unable to accommodate customer needs (currently 77,740 customer visits per year, compared to 130,156 customer visits per year that would be expected if an adequately sized facility were to be provided).

1.4 Alternative Selection Criteria

Due to the considerations presented in the preceding sections and additional Air Force planning process considerations, the following selection criteria were established. The automotive/arts and crafts skills center on Hill AFB should:

- Be located in the community area as defined in the Hill AFB general plan.

The Hill AFB general plan dictates development zones applicable to maintaining facilities and building new structures on the base. The community area contains dormitories, shops, restaurants, and other support structures such as morale welfare and recreation (MWR) facilities. Segregating these land uses into a community zone prevents conflicts with industrial uses, truck traffic, explosive clear zones, and promotes the safety of military personnel and their children, civilian employees, contractors, and base visitors.

- Provide sufficient area for 22,300 ft² of structures, plus driveways and parking.

The internal needs validation study (Hill 2008) documented the need for a 22,300 ft² facility. The scope of the project has been increased to 25,100 square feet since the internal needs validation study was published.

- Not encroach upon existing facilities.

Force protection requirements state a 25 meter buffer zone is required for structures on base. This buffer zone must be considered when proposing new facilities on base.

- Not encroach upon other previously approved construction perimeters for upcoming base facilities.

Vacant sites on Hill AFB are not necessarily available sites. The Hill AFB facilities board approves locations for new structures. Such approvals cannot subsequently be changed without jeopardizing the previously approved and/or funded project.

- Be adjacent to existing utilities.

Funding approval for this project is contingent on utilities being present at the site boundary.

1.5 Relevant Plans, EISs, EAs, Laws, Regulations, and Other Documents

During the scoping process, no relevant plans, environmental impact statements (EISs), or EAs were identified.

The following federal, state, and local laws and regulations would apply to the proposed action:

- The National Environmental Policy Act (NEPA), Title 42 of the United States Code (USC) Section 4321 *et seq.*

- Council on Environmental Quality regulations, Title 40 of the Code of Federal Regulations (CFR) Parts 1500-1508.
- USAF-specific requirements contained in 32 CFR Part 989, Environmental Impact Analysis Process (EIAP).
- Safety guidelines of the Occupational Safety and Health Administration (OSHA).
- Relevant Air Force Occupational Safety and Health (AFOSH) standards.
- Utah's fugitive emissions and fugitive dust rules (Utah Administrative Code [UAC] Section R307-309).
- Utah's State Implementation Plan (UAC Section R307-110), which complies with the General Conformity Rule of the Clean Air Act (CAA), Section 176 (c).
- Determining Conformity of Federal Actions to State or Federal Implementation Plans, 40 CFR Part 93.154.
- USAF *Conformity Guide*, 1995.
- Utah Asbestos Rules, UAC, Section R307-801.
- The Resource Conservation and Recovery Act (RCRA), 42 USC Chapter 82, and regulations promulgated thereunder, 40 CFR Part 260 *et seq.*
- Federal facility agreement dated April 10, 1991, under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 42 USC Section 9601 *et seq.*
- Utah hazardous waste management regulations contained in UAC Section R315, and the Hill AFB *Hazardous Waste Management Plan* dated May, 2001, and subsequent versions.
- The Clean Water Act (CWA), 33 USC Section 1251 *et seq.*, and Utah statutes and regulations promulgated thereunder.
- The Energy Independence and Security Act (EISA) of 2007, Public Law No. 110-140, Sec. 438, Storm Water Runoff Requirements for Federal Development Projects.
- The Hill AFB *Stormwater Management Plan - Municipal Stormwater Permit*, dated April, 2007, and subsequent versions.
- The Hill AFB *Updated Drinking Water Source Protection (DWSP) Plan, Hill Air Force Base Well 5*, dated May, 2008, and subsequent versions.
- Migratory Bird Treaty Act (MBTA), 16 USC Sections 703-712 *et seq.*
- Bald and Golden Eagle Protection Act, 16 USC Sections 668-668c *et seq.*

- The Hill AFB *Integrated Natural Resources Management Plan*, dated August, 2007, and subsequent versions.
- The Hill AFB *Integrated Cultural Resources Management Plan*, dated January, 2007, and subsequent versions.
- The National Historic Preservation Act (NHPA) of 1966, as amended 16 USC Section 470 *et seq.*

During the scoping process, no other documents were identified as being relevant to the proposed action.

1.6 Decisions That Must Be Made

Hill AFB must decide whether to:

- Not provide a new automotive/arts and crafts skills center (no action), or
- Provide a new automotive/arts and crafts skills center.
- If the decision is to construct a new automotive/arts and crafts skills center, then a decision must be made as to where the facility will be located.

Renovating and expanding the existing automotive/arts and crafts skills center was considered by the Hill AFB planners and engineers. This option was not feasible due to spatial constraints of neighboring structures compared to the 25 meter buffer zone that is required for structures on base by the current force protection requirements.

If Hill AFB decides to construct a new automotive/arts and crafts skills center, the proponent and environmental managers would comply with the best management practices indicated in this EA. Further, within 90 days of a written decision pursuant to this EA, the proponent and environmental managers would then decide what additional plans and measures, if any, should be implemented.

If Hill AFB decides to construct a new automotive/arts and crafts skills center, the base would then decide if the selected alternative would or would not be a major federal action significantly affecting the quality of the human environment. If judged as not significantly affecting the quality of the human environment, then a finding of no significant impact (FONSI) would be prepared and signed, and the project would proceed. If judged as significantly affecting the quality of the human environment, then an EIS and a record of decision (ROD) would have to be prepared and signed before the project could proceed.

1.7 Scope of this Environmental Analysis

The scope of the current environmental analysis is to explore environmental issues related to the proposed action (construct a new automotive/arts and crafts skills center on Hill AFB) and the reasonable alternatives identified within this document.

1.7.1 History of the Planning and Scoping Process

Scoping discussions were held: to identify potential environmental concerns; to facilitate an efficient environmental analysis process; to identify issues and alternatives that would be considered in detail while devoting less attention and time to less important issues; and to save time in the overall process by helping to ensure that draft documents would adequately address relevant issues, thereby reducing the time required to proceed to a final document.

On June 2, 2010, an initial scoping meeting was conducted in Building 5, Hill AFB. Attendees included proponents of the proposed action, managers of Hill AFB's NEPA program, other environmental program managers, and the authors of this document.

During this meeting and subsequent scoping interaction, the following environmental issues were addressed:

- air quality;
- solid and hazardous wastes (including liquid waste streams);
- biological resources;
- geology and surface soils;
- water quality;
- cultural resources;
- occupational safety and health;
- air installation compatible use zone (AICUZ); and
- socioeconomic resources.

1.7.2 Issues Studied in Detail

The issues that have been identified for detailed consideration and are therefore presented in Sections 3 and 4 are:

Air Quality (attainment status, emissions, Utah's state implementation plan [SIP])

Air emissions would be produced by construction equipment. Operating the proposed action would create air emissions. Air quality effects are discussed in Section 4 of this document.

Solid and Hazardous Wastes (materials to be used, stored, recycled, or disposed, including liquid waste streams; existing asbestos, lead-based paint, mercury, and polychlorinated biphenyls [PCBs])

During construction, solid wastes would be generated, and other hazardous wastes might be generated that would require proper treatment and/or disposal. Additional hazardous wastes could be generated if a spill of fuel, lubricants, or construction-related chemicals were to occur.

Operating the proposed action would be expected to create solid and hazardous wastes (to include solid and liquid wastes). Effects related to solid and hazardous wastes are discussed in Section 4 of this document.

Water Quality (surface water, groundwater, water quantity, wellhead protection zones)

Based on information provided by Hill AFB, the land area to be disturbed would be approximately two acres in size. The proposed action would be subject to stormwater permit and compliance requirements both during the construction period and during operations.

Depth to groundwater is approximately 100 feet below the ground surface (bgs) in the vicinity of the proposed action. The proposed action would not require excavations deeper than approximately ten feet bgs (for footings, foundations, and on-site utilities). The proposed action would be located within a DWSP zone related to Hill AFB Well 5.

The scoping discussions did not identify any issues related to quantity of water or wellhead protection zones.

Effects related to water quality are discussed in Section 4 of this document.

Liquid waste streams created during construction and from operating the proposed action are included in the discussions related to solid and hazardous wastes (Section 4 of this document).

1.7.3 Issues Eliminated From Further Study

The issues that were not carried forward for detailed consideration in Sections 3 and 4 are:

Biological Resources (flora and fauna including threatened, endangered, sensitive species; wetlands; floodplains)

Approximately two acres of previously disturbed land would be re-developed by the proposed action. The site is essentially devoid of flora and fauna.

The scoping discussions did not identify any issues related to wetlands or floodplains.

Geology and Surface Soils (seismicity, topography, minerals, geothermal resources, land disturbance, known pre-existing contamination)

The scoping discussions did not identify any issues related to seismicity, topography, minerals, or geothermal resources.

Excavations would be necessary to install: footings; foundations; and buried utilities consisting of water, electricity, natural gas, telephone/data, sanitary sewer, and storm drains. Discussions

related to preventing soil erosion (stormwater pollution prevention) are addressed under water quality effects (Section 4 of this document).

Contamination of shallow soil is not known to exist in the vicinity of the proposed action. Potential discovery of suspicious soils during excavation is addressed under solid and hazardous wastes (Section 4 of this document).

Cultural Resources (archaeological, architectural, traditional cultural properties)

The proposed action is located where Building 800 formerly existed. Building 800 was a large wooden WWII-era warehouse constructed in 1943 and determined eligible for the National Register of Historic Places. Prior to demolishing Building 800, a memorandum of agreement was signed between Hill AFB and the Utah State Historic Preservation Office (SHPO) to mitigate the adverse effect caused by the demolition (Hill 2005, see Appendix A). The mitigation included public outreach (update of the Hill AFB website historic buildings interactive map); photographs and drawings; intensive level surveys; and documentation of the affected buildings.

Given the lack of previous findings and the extensive development and disturbance of Hill AFB, the potential for historic properties is extremely low. However, if any are found during construction, ground-disturbing activities in the immediate vicinity will cease, the Hill AFB Cultural Resources Program will be notified, and unanticipated discovery of archaeological deposits procedures will be implemented with direction from the Hill AFB Cultural Resources Program in accordance with Standard Operating Procedure 5 in the Hill AFB *Integrated Cultural Resources Management Plan* (Hill 2007a).

The Utah SHPO concurred with a finding of no adverse effect after reviewing the proposed action (Appendix B).

Hill AFB has determined formal consultation with American Indian Tribes is not warranted given the absence of resources that may be reasonably construed as being of interest to them.

Occupational Safety and Health (physical and chemical hazards, radiation, explosives, bird and wildlife hazards to aircraft)

Throughout the construction phase of the project, Hill AFB contractors would follow OSHA safety guidelines as presented in the CFR. Hazardous materials that could be used during construction are included in the discussions related to solid and hazardous wastes (Section 4 of this document).

Related to Hill AFB military personnel and civilian employees, the Bio-environmental Engineering Flight (75 AMDS/SGPB) is responsible for implementing AFOSH standards. The AFOSH program addresses (partial list): hazard abatement, hazard communication, training, personal protective equipment and other controls to ensure that occupational exposures to hazardous agents do not adversely affect health and safety, and acquisition of new systems.

The scoping discussions did not identify any issues related to occupational safety and health that would not be routinely addressed by OSHA rules and/or the Bio-engineering Flight.

AICUZ (noise, accident potential, airfield encroachment)

The scoping discussions did not identify any issues related to noise, aircraft accident potential, or airfield encroachment.

Socioeconomic Resources (local fiscal effects including employment, population projections, and schools)

Opportunities would exist for local construction workers if the proposed action is constructed. The proposed action would not be expected to create additional permanent jobs at Hill AFB. Several existing part time employees would have an opportunity to increase the hours they work per week. The scoping discussions did not identify any issues related to population projections or schools.

1.8 Applicable Permits, Licenses, and Other Coordination Requirements

Obtaining, modifying, and/or complying with the following permits would be required to implement the proposed action.

- The Hill AFB Title V Operating Permit (Permit Number: 1100007001, and subsequent versions). See Section 4.2.1 for additional details.
- Storm Water General Permit for Construction Activities permit number UTR300000, dated July 1, 2008, and subsequent versions. See Section 4.2.3 for additional details.
- The Hill AFB *Stormwater Management Plan - Municipal Stormwater Permit*, dated April, 2007, and subsequent versions. See Section 4.2.3 for additional details.

The proponents would coordinate with the Hill AFB hazardous materials program manager (75 CEG/CEVC) to discuss hazardous materials brought on base to construct the proposed action. See Section 4.2.2 for additional details.

2.0 ALTERNATIVES, INCLUDING THE PROPOSED ACTION

2.1 Introduction

This section discusses the process used to develop the alternatives, describes the alternatives, and compares (in a brief summary fashion) the alternatives and their expected effects. Finally, this section states the Air Force's preferred alternative.

2.2 Process Used to Develop the Alternatives

As discussed in Sections 1.3 and 1.4 of this document, Hill AFB proposes to provide a new automotive/arts and crafts skills center. The proposed facility would address the needs discussed in Section 1.3 and the criteria stated in Section 1.4 of this document.

Hill AFB planners and engineers investigated renovating and expanding the existing automotive/arts and crafts skills center (see Section 2.3.3.1), and other potential locations for siting the facility (see Section 2.3.3.2).

2.3 Description of Alternatives

2.3.1 Alternative A: No Action

Under the no action alternative, a new automotive/arts and crafts skills center would not be constructed, and adequate facilities would not be provided. The existing facility would operate as it currently exists. The deficiencies discussed in Section 1.3 would continue to exist.

2.3.2 Alternative B: Proposed Action - Construct an Automotive/Arts and Crafts Skills Center

The proposed action is to construct a new automotive/arts and crafts skills center west of F Avenue on Hill AFB (Figure 2). Military construction project data indicate the proposed action would consist of:

- Footings and foundations to support a structural steel shell (25,100 ft² of building space).
- All utilities including mechanical and electrical systems.
- Parking, concrete sidewalks, and landscaping.
- Connections to adjacent buried utilities consisting of water, electricity, natural gas, telephone/data, sanitary sewer, and storm drains.

No demolition is currently planned. Building 534 would remain vacant until a new use is identified for it.

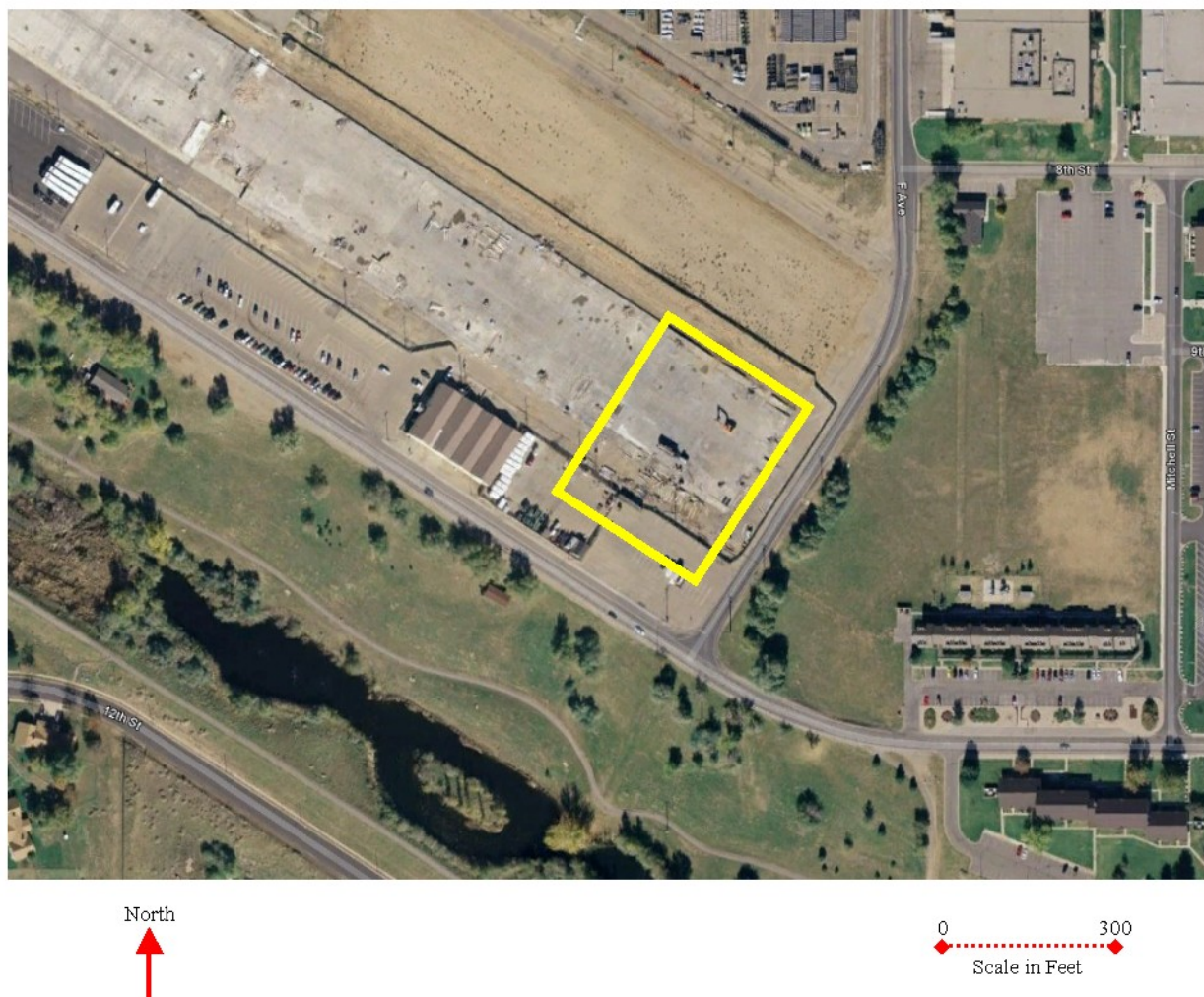


Figure 2: Boundary of the Proposed Action

2.3.3 Alternatives Eliminated From Detailed Study

2.3.3.1 Renovating and Expanding

Renovating and expanding the existing facility in Building 534 was considered by the Hill AFB planners and engineers. This option was not feasible due to spatial constraints of neighboring structures compared to the 25 meter buffer zone that is required for structures on base by the current force protection requirements.

2.3.3.2 Other Locations

Hill AFB planners and engineers considered other potential locations for the automotive/arts and crafts skills center. No other potential site was identified that could meet the selection criteria presented in Section 1.4.

Alternative C, renovating and expanding the existing facility, could not meet the criterion for square footage and will not be considered in detail. The internal needs validation study published in October, 2008 stated the existing facility is located in an area with no room for growth.

Alternative D, constructing the facility to the south of Bldg. 412 and west of Bldg. 418, did not meet the criterion for square footage and will not be considered in detail.

Alternative E, constructing the facility to the south of Bldg. 830, did not meet the criterion for not encroaching upon other previously approved construction perimeters for upcoming base facilities (a consolidated training center), and will not be considered in detail.

Alternative F, constructing the facility to the east of Bldg. 825, did not meet the criterion for not encroaching upon existing facilities (a Defense Logistics Agency storage area) and will not be considered in detail.

2.4 Summary Comparison of the Alternatives and Predicted Achievement of the Project Objectives

2.4.1 Summary Comparison of Project Alternatives

The no action alternative would be to continue current operations using the existing facility. The existing facility would operate as it currently exists. The deficiencies discussed in Section 1.3 would continue to exist.

Under Alternative B (proposed action), a new automotive/arts and crafts skills center would be constructed. The proposed facility would address the needs discussed in Section 1.3 and the criteria stated in Section 1.4 of this document.

2.4.2 Summary Comparison of Predicted Achievement of Project Objectives

Alternative	A	B	C	D	E	F
Description of the Project Objective						
Be located in the community area as defined in the Hill AFB general plan	Yes	Yes	Yes	Yes	Yes	Yes
Provide sufficient area for 22,300 ft ² of structures, plus driveways and parking	No	Yes	No	No	Yes	Yes
Not encroach upon existing facilities	Yes	Yes	Yes	Yes	Yes	No
Not encroach upon other previously approved construction perimeters for upcoming base facilities	Yes	Yes	Yes	Yes	No	Yes
Be adjacent to existing utilities	Yes	Yes	Yes	Yes	Yes	Yes

Alternative A: No action

Alternative B: Proposed action

Alternative C: Renovate and expand the existing facility

Alternative D: Construct south of 412 and west of 418

Alternative E: Construct south of 830

Alternative F: Construct east of 825

Table 1: Summary Comparison of Predicted Achievement of Project Objectives

2.5 Identification of the Preferred Alternative

Hill AFB prefers Alternative B (the proposed action).

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

Section 3 of this document discusses the existing conditions of the potentially affected environment, establishing a resource baseline against which the effects of the various alternatives can be evaluated. It presents relevant facilities and operations, environmental issues, pre-existing environmental factors, and existing cumulative effects due to human activities in the vicinity of the proposed action or the alternative locations.

Issues discussed during scoping meetings, but eliminated from detailed consideration (see Section 1.7.3) include:

- geology and surface soils (seismicity, topography, minerals, geothermal resources, land disturbance, known pre-existing contamination);
- cultural resources (archaeological, architectural, traditional cultural properties);
- occupational safety and health (physical and chemical hazards, radiation, explosives, bird and wildlife hazards to aircraft);
- AICUZ (noise, accident potential, airfield encroachment); and
- socioeconomic resources (local fiscal effects including employment, population projections, and schools).

3.2 Description of Relevant Facilities and Operations

As stated above, the existing facility does not comply with the criterion to provide sufficient area for 22,300 ft² of structures, plus driveways and parking. No other relevant facilities or operations were identified.

3.3 Description of Relevant Affected Issues

3.3.1 Air Quality

Hill AFB is located in Davis and Weber Counties, Utah. The Utah Division of Air Quality (DAQ) reports neither county is in complete attainment status with federal clean air standards (DAQ 2010a, see Figures 3 and 4). Non-attainment areas fail to meet national ambient air quality standards (NAAQS) for one or more of the criteria pollutants: oxides of nitrogen (NO_x), sulfur dioxide (SO₂), ozone (O₃), particulates less than 10 microns in diameter (PM-10), particulates less than 2.5 microns in diameter (PM-2.5), carbon monoxide (CO), and lead. Davis County (in which the proposed action lies) is designated as a non-attainment area for PM-2.5 and is a maintenance area for ozone. Davis County is awaiting a non-attainment designation for ozone (DAQ 2007, see Figure 5). Due to the ozone designation, emission offsets are required for new sources emitting NO_x and volatile organic compounds (VOCs), which are precursors to ozone formation. Due to the PM-2.5 designation, DAQ must submit an implementation plan to

the United States Environmental Protection Agency (EPA) for reducing concentrations of the five main types of pollutants contributing to fine particle concentrations in the non-attainment areas (the pollutants are direct PM-2.5 emissions, SO₂, NO_x, ammonia, and VOCs).

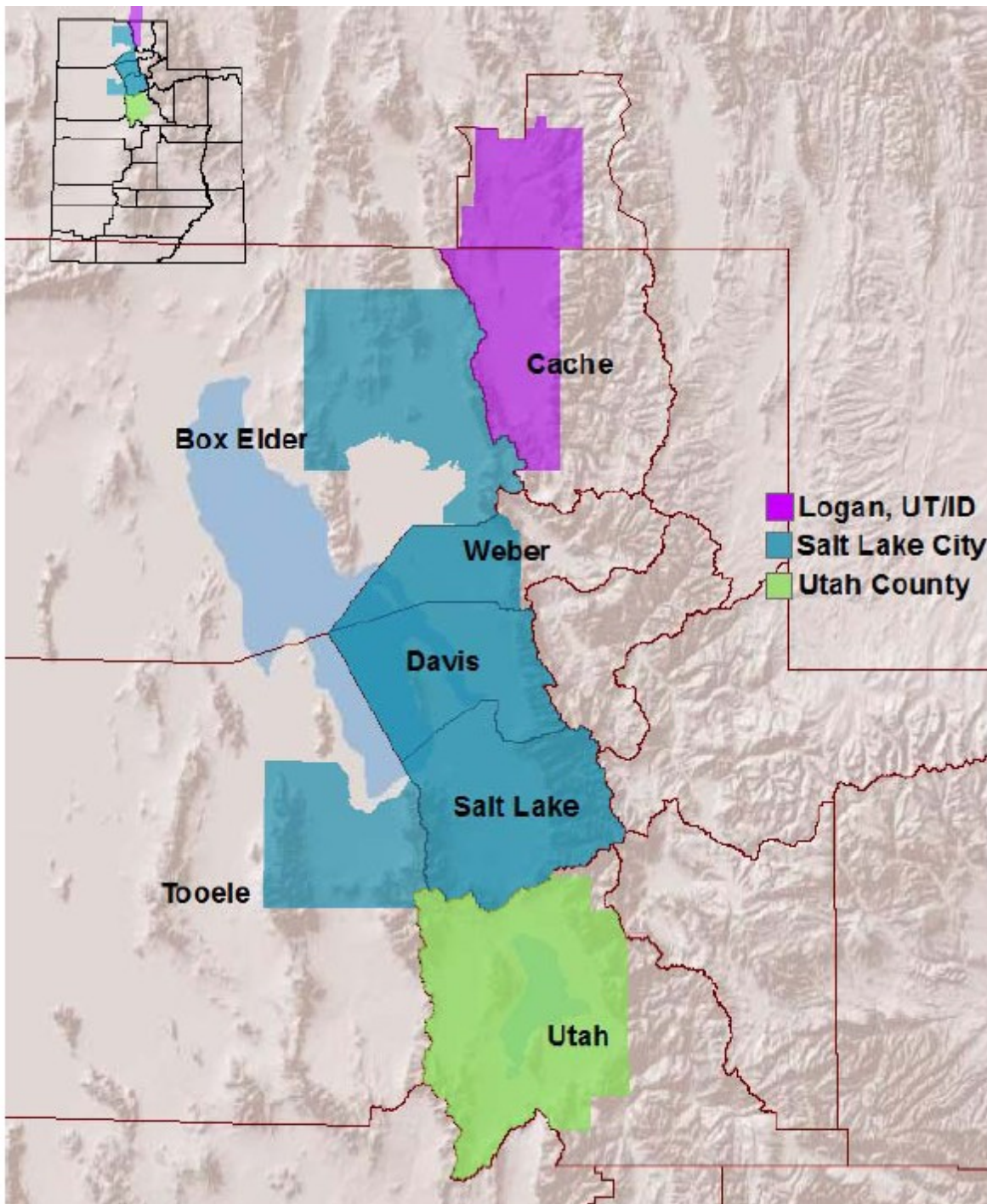


Figure 3: State of Utah Areas of Non-Attainment for PM-2.5

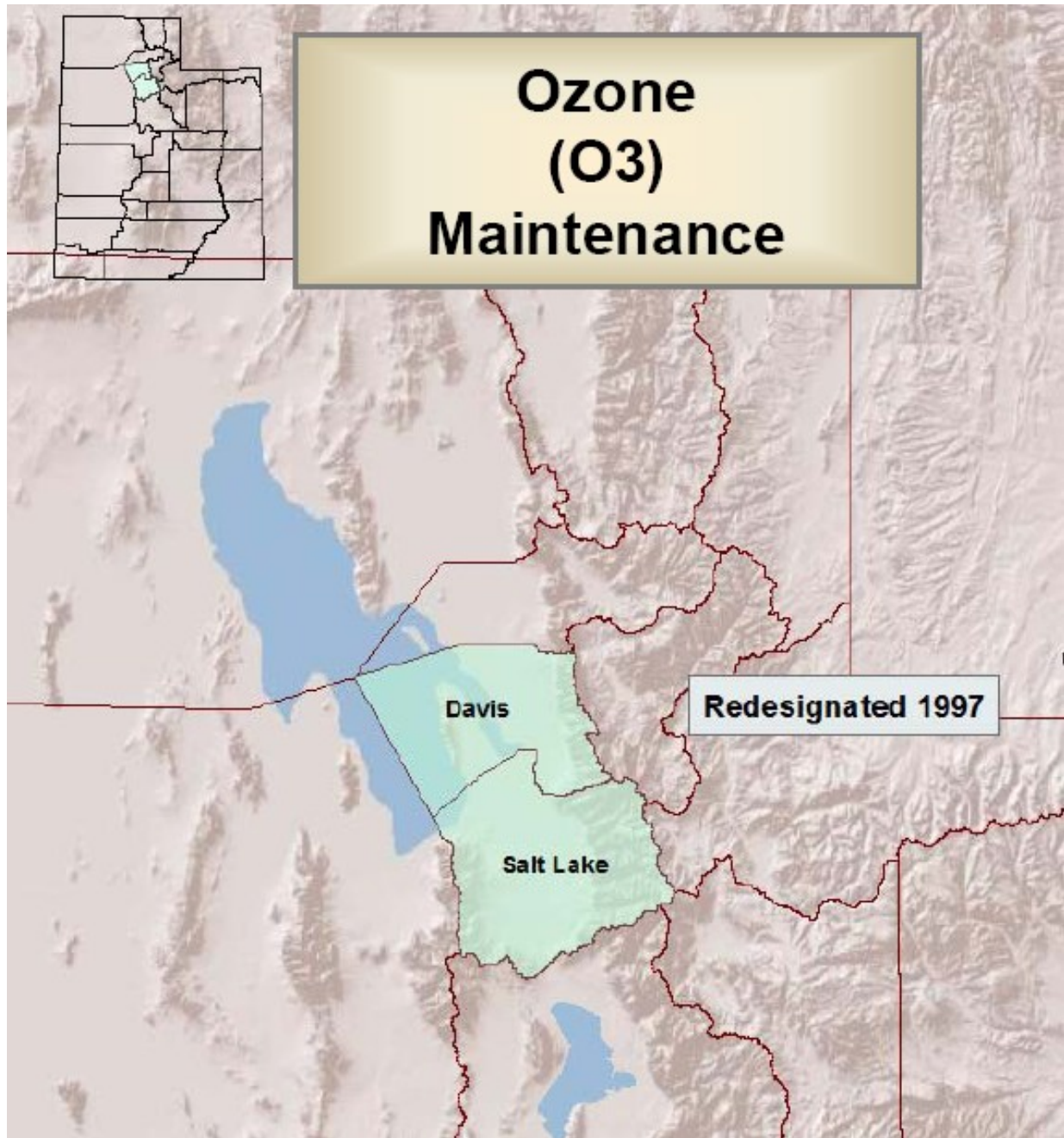


Figure 4: State of Utah Areas of Maintenance for Ozone

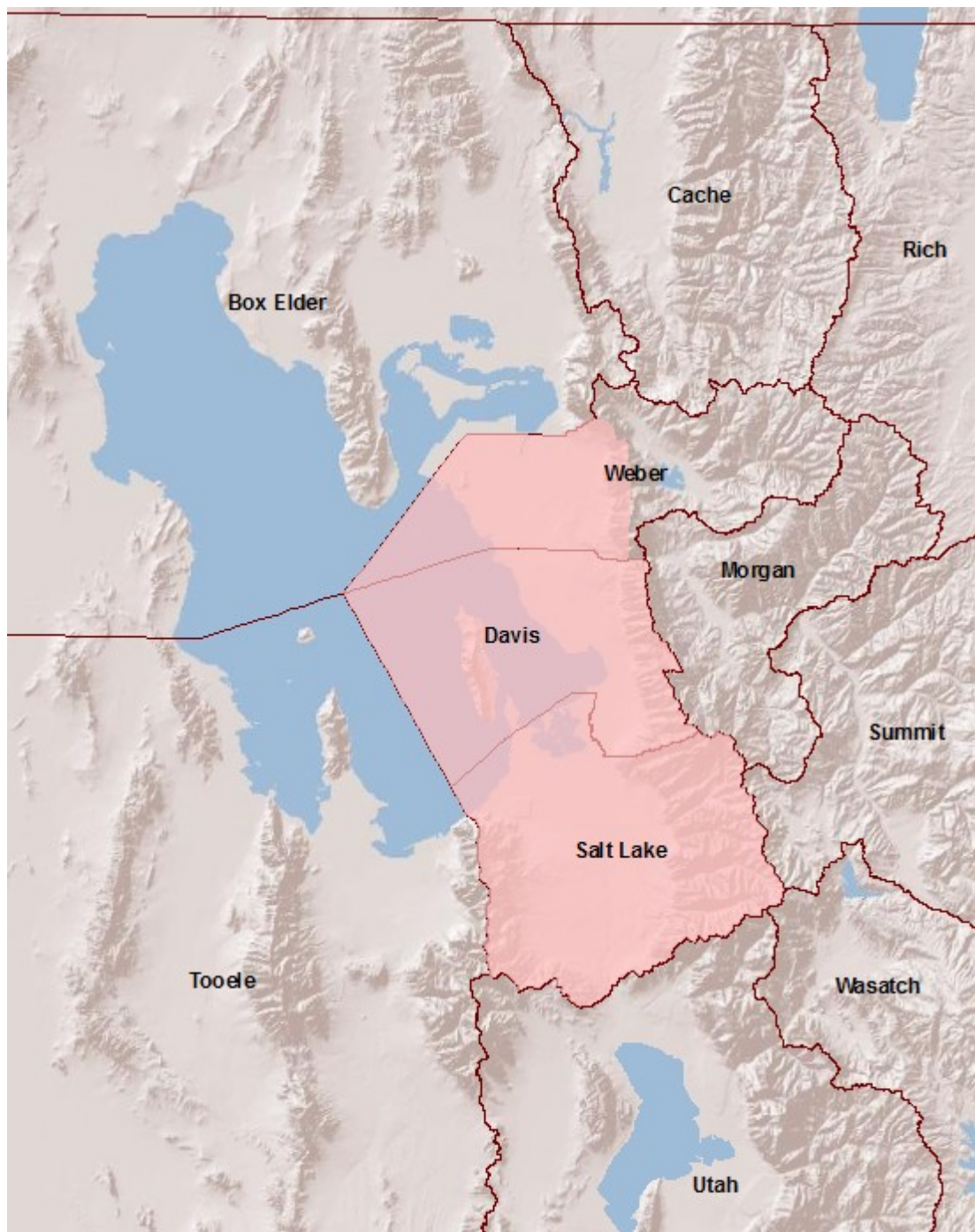


Figure 5: State of Utah Recommended Areas of Non-Attainment for Ozone

The current air quality trend at Hill AFB is one of controlling emissions as Hill AFB managers implement programs to eliminate ozone-depleting substances, limit use of VOCs, switch to lower vapor pressure solvents and aircraft fuel, convert internal combustion engines from gasoline and diesel to natural gas, and improve the capture of particulates during painting and abrasive blasting operations (in compliance with the base's Title V air quality permit).

Emission estimates are available for criteria air pollutants and hazardous air pollutants (HAPs) for Hill AFB (Hill 2010) and for Davis and Weber Counties (DAQ 2010b, EPA 2010). The estimates, shown below in Table 2, were based on data from calendar year 2009 for Hill AFB, and for calendar year 2005 (still the most recent data available) for Davis and Weber Counties. The county HAP emissions were obtained from EPA, and calendar year 2002 was the most recent year available.

Location	VOC	CO	NO _x	PM-10	PM-2.5	HAP	SO _x
Hill AFB	267	283	255	57	28	86	5
Davis County	18,082	65,138	10,741	3,863	1,224	2,533	3,483
Weber County	15,592	48,943	6,880	3,011	940	1,951	240

Table 2: Baseline Criteria Pollutants and HAPs (tons/year)

The existing automotive/arts and crafts skills center has air emissions from welding, various spray cans, a parts washer (using Shellsol D60), and woodworking. Air emissions reported for the wood shop (sanding and carpentry) are controlled to the stated levels using a cyclone filter and baghouse. The parts washer lid is closed when the unit is not in use. No other emission controls exist. Calculated air emissions from these sources are shown in Table 3.

Operate Automotive/Arts and Crafts Skills Center								
Process/Equipment Type	Usage (lb/year)	Emission Factors (Units as Ratios Unless Noted Otherwise)						
		VOC	CO	NOx	PM10	PM 2.5	HAPs	SOx
Copper Wire (Welding)	33.0				0.01		0.0006	
Steel Stick (Welding)	1.0				0.038		0.001	
Starting Fluid	2.0	1.00						
Battery Cleaner	2.8	0.80						
White Lithium Grease	1.3	0.85					0.53	
Battery Terminal Protector	0.5	0.78					0.42	
Brake Parts Cleaner	231.0	0.20						
Engine Degreaser	1.9	0.19						
Carb and Choke Cleaner	11.3	0.59					0.64	
Fast Break Penetrant	53.3	0.90						
Silicone Spray Lubricant	5.1	0.18						
WD 40	19.9	0.80						
Shellsol D60	133.4	0.85						
Sanding (usage in hours, emissions in lb/hr)	250.0				0.1	0.06		
Carpentry (usage in hours, emissions in lb/hr)	636.0				0.04	0.024		
Operate Automotive/Arts and Crafts Skills Center								
Process/Equipment Type		Annual Emissions (lb/yr)						
		VOC	CO	NOx	PM10	PM 2.5	HAPs	SOx
Copper Wire (Welding)					0.33		0.02	
Steel Stick (Welding)					0.04		0.00	
Starting Fluid		2.01						
Battery Cleaner		2.20						
White Lithium Grease		1.06					0.66	
Battery Terminal Protector		0.37					0.20	
Brake Parts Cleaner		46.20						
Engine Degreaser		0.36						
Carb and Choke Cleaner		6.68					7.20	
Fast Break Penetrant		47.93						
Silicone Spray Lubricant		0.93						
WD 40		15.95						
Shellsol D60		113.42						
Sanding					25.00	15.00		
Carpentry					25.44	15.26		
Totals (lb/yr)		237			51	30	8	

Notes:

Usage from Hill AFB and Frank Edwards Auto Parts Supply

Emission factors from EPA, Hill AFB, and product-specific MSDS sheets

Blank cells indicate no predicted emissions

Table 3: Existing Operational Air Emissions

3.3.2 Solid and Hazardous Wastes

In general, hazardous wastes include substances that, because of their concentration, physical, chemical, or other characteristics, may present substantial danger to public health or welfare or to the environment when released into the environment or otherwise improperly managed.

Potentially hazardous and hazardous wastes generated at Hill AFB are managed as specified in the *Hill AFB Hazardous Waste Management Plan* with oversight by personnel from the Environmental Management Division and the Defense Reutilization and Marketing Office (DRMO). Hazardous wastes at Hill AFB are properly stored during characterization, and then manifested and transported off site for treatment and/or disposal.

Non-regulated wastes created within the existing automotive/arts and crafts skills center include: office and kitchen trash; scrap aluminum and steel; drained and crushed oil filters; de minimis amounts of granular sorbent (approximately 3 pounds per month); used bead blast media; scraps of wood; occasional broken glass; and small amounts of cardboard, newspaper, and plastic wrapping in quantities that are insufficient to recycle.

Wastes created within the existing automotive/arts and crafts skills center that are either regulated or have the potential to be regulated include the following waste streams.

- Used spray cans are collected. These cans are typically empty or mostly empty. After being punctured, the contents are recycled if possible, and the remaining contents are disposed as hazardous waste.
- Grit is collected from the floor drains. Following waste characterization, grit is disposed as either regulated or uncontaminated waste.
- Rags containing oil, brake fluid, transmission fluid, and/or grease are sent to the Hill AFB laundry. Effluent from the laundry facility flows to the Hill AFB industrial wastewater treatment plant prior to being released to the sanitary sewer. Rags that cannot be laundered are collected. Following waste characterization, the rags are disposed as either regulated or uncontaminated waste.
- Used motor oil and used antifreeze are disposed as hazardous waste due to the possibility of contamination by non petroleum waste, such as hazardous metals.
- Spent solvent and sorbent pads related to the parts washer are removed by a vendor (currently Safety Kleen) for recycling and/or proper disposal.
- Water from the floor drains flows to a catch basin adjacent to the building, then to a sanitary sewer. Building restrooms are also connected to the sanitary sewer.

3.3.3 Water Quality

In areas of Hill AFB that are not heavily developed, runoff is allowed to infiltrate into the ground through overland flow or surface ditches, discharging to large unoccupied areas. In developed areas, stormwater is typically conveyed to 14 retention or detention ponds within Hill AFB

boundaries. Stormwater from retention ponds percolates and evaporates, resulting in zero discharge. Detention ponds are checked for presence of an oil sheen prior to discharging stormwater by manually opening the outfall valves.

No surface water bodies are present within the area occupied by the exiting automotive/arts and crafts skills center or the area proposed for constructing the new facility. Based on a review of the *Hill AFB Stormwater Management Plan - Municipal Stormwater Permit* (Stantec 2007), storm drains convey surface runoff from this area of Hill AFB to Pond 3 (a detention pond).

The proposed action would be located within DWSP Zone 4 related to Hill AFB Well 5 (Stantec 2008).

3.4 Description of Relevant Pre-Existing Environmental Factors

The Wasatch Front Regional Council (WFRC 2003) assessed earthquake hazards for Davis County, Utah, including the portion of Hill AFB that includes the alternatives discussed in this document. The Davis County liquefaction potential map shows this area of Hill AFB to be in the zone labeled as very low risk. The Davis County earthquake hazard map shows this area of Hill AFB to be outside of known fault zones. The Davis County landslide hazard map shows this area of Hill AFB to be outside of known landslide risk zones.

During scoping discussions and subsequent analysis, no other pre-existing environmental factors (e.g., hurricanes, tornados, floods, droughts) were identified for the proposed action.

3.5 Description of Areas Related to Cumulative Effects

For air quality, the area related to cumulative effects would include Hill AFB, Davis County, and Weber County.

For solid and hazardous wastes, the area related to cumulative effects would include Hill AFB.

For water quality, the area related to cumulative effects would include Hill AFB and waters downstream from the Hill AFB stormwater detention ponds.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

This section discusses effects to the resources that were identified for detailed analysis in Section 1.7.2, and for which existing conditions were presented in Section 3.3. For each of these resources, the following analyses are presented:

- direct, indirect, and cumulative effects of the no action alternative; and
- direct, indirect, and cumulative effects of the proposed action (Alternative B)

4.2 Predicted Effects to Relevant Affected Resources of All Alternatives

4.2.1 Predicted Effects to Air Quality

4.2.1.1 Alternative A: No Action

Existing air emissions as explained in Section 3.3.1 would continue. The no action alternative would have no other direct effects, no indirect effects, and no cumulative effects.

4.2.1.2 Alternative B (Proposed Action): Construct an Automotive/Arts and Crafts Skills Center

Direct Effects Due to Construction

Fugitive Dust: Fugitive emissions from construction activities would be controlled according to UAC Section R307-205, *Emission Standards: Fugitive Emissions and Fugitive Dust* and the Hill AFB *Fugitive Dust Plan*. Good housekeeping practices would be used to maintain construction opacity at less than 20 percent. Haul roads would be kept wet. Any soil that is deposited on nearby paved roads by construction vehicles would be removed from the roads and either returned to the site or placed in an appropriate on-base disposal facility.

Heavy Equipment: The internal combustion engines of heavy equipment would generate emissions of VOCs, CO, NO_x, particulates, HAPs, and oxides of sulfur (SO_x). Assumptions and estimated emissions for the construction period are listed in Table 4.

Data Assumptions							
Equipment Type	Diesel Emission Factor (lbs/hr)						
	VOC (HC)	CO	NOx	PM10	HAPs	SOx	
Asphalt Paver	0.28	1.24	2.96	0.24	0.05	0.25	
Bobcat Loader	0.14	0.67	1.00	0.10	0.01	0.08	
Cable Plow	0.59	3.75	4.49	0.59	0.08	0.38	
Compressor (boring)	0.25	1.62	1.94	0.25	0.04	0.16	
Concrete Truck	0.80	3.55	8.50	0.69	0.15	0.72	
Crane	2.14	6.96	17.08	2.39	0.33	1.54	
Dump Truck	0.63	2.04	6.98	0.58	0.16	0.65	
Flat Bed Truck	0.48	1.54	5.29	0.44	0.12	0.49	
Fork Lift	0.42	2.47	1.98	0.40	0.05	0.23	
Generator	0.02	0.10	0.12	0.02	0.00	0.01	
Loader/Backhoe	0.87	4.12	6.12	0.64	0.06	0.52	
Motored Grader	0.83	2.01	5.08	0.53	0.06	0.46	
Scraper	0.33	2.31	4.03	0.58	0.13	0.42	
Track Hoe	0.91	6.65	13.75	1.84	0.26	1.19	
Vibratory Compactor	0.38	1.44	4.31	0.36	0.09	0.46	
Water Truck	1.10	3.58	12.28	1.02	0.28	1.14	
Wheeled Dozer	0.46	1.48	5.08	0.35	0.08	0.49	
Note: VOCs = Hydrocarbons and HAPs = Aldehydes							
Source: Industry Horsepower Ratings and EPA 460/3-91-02							
Construct Automotive, Arts and Crafts Skills Center							
EQUIPMENT TYPE	HOURS OF OPERATION	Diesel Emissions (lbs)					
		VOC	CO	NOx	PM10	HAPs	SOx
Asphalt Paver	120	33.6	148.8	355.2	28.8	6.0	30.0
Bobcat Loader	60	8.4	40.2	60.0	6.0	0.6	4.8
Cable Plow	6	3.5	22.5	26.9	3.5	0.5	2.3
Compressor (boring)	4	1.0	6.5	7.8	1.0	0.2	0.6
Concrete Truck	16	12.8	56.8	136.0	11.0	2.4	11.5
Crane	60	128.4	417.6	1024.8	143.4	19.8	92.4
Dump Truck	4	2.5	8.2	27.9	2.3	0.6	2.6
Flat Bed Truck	4	1.9	6.2	21.2	1.8	0.5	2.0
Fork Lift	6	2.5	14.8	11.9	2.4	0.3	1.4
Generator	30	0.6	3.0	3.6	0.6	0.0	0.3
Loader/Backhoe	100	87.0	412.0	612.0	64.0	6.0	52.0
Motored Grader	110	91.3	221.1	558.8	58.3	6.6	50.6
Scraper	16	5.3	37.0	64.5	9.3	2.1	6.7
Track Hoe	130	118.3	864.5	1787.5	239.2	33.8	154.7
Vibratory Compactor	6	2.3	8.6	25.9	2.2	0.5	2.8
Water Truck	4	4.4	14.3	49.1	4.1	1.1	4.6
Wheeled Dozer	4	1.8	5.9	20.3	1.4	0.3	2.0
TOTAL ESTIMATED EMISSIONS (lbs)		505.7	2288.0	4793.3	579.3	81.3	421.2
TOTAL ESTIMATED EMISSIONS (tons)		0.25	1.14	2.40	0.29	0.04	0.21

Hours of use based on previous similar estimates from Steve Weed, Hill AFB Engineering

Table 4: Calculated Heavy Equipment Emissions

Direct Effects Due to Operations

Based on information received during the scoping meeting held on June 2, 2010 and subsequent discussions with the proponent, air emissions due to operating the proposed action would increase due to providing additional service bays in the proposed facility. Based on providing nine hydraulic lifts compared to four hydraulic lifts in the existing automotive shop, use of equipment and spray cans in the automotive shop would be expected to increase to approximately 225 percent of current levels. Customer participation for the wood shop is expected to remain at current levels. Air emissions related to the wood shop are expected to remain at current levels, but they would decline if the existing cyclone filter and baghouse are replaced by more efficient control devices.

Predicted air emissions from the proposed action are shown in Table 5. VOC emissions are predicted to rise by much less than one ton per year. Emissions of HAPs are predicted to rise by only a few pounds per year.

Operate Proposed Automotive/Arts and Crafts Skills Center								
Process/Equipment Type	Usage (lb/year)	Emission Factors (Units as Ratios Unless Noted Otherwise)						
		VOC	CO	NOx	PM10	PM 2.5	HAPs	SOx
Copper Wire (Welding)	74.3				0.01		0.0006	
Steel Stick (Welding)	2.3				0.038		0.001	
Starting Fluid	4.5	1.00						
Battery Cleaner	6.2	0.80						
White Lithium Grease	2.8	0.85					0.53	
Battery Terminal Protector	1.1	0.78					0.42	
Brake Parts Cleaner	519.8	0.20						
Engine Degreaser	4.2	0.19						
Carb and Choke Cleaner	25.3	0.59					0.64	
Fast Break Penetrant	119.8	0.90						
Silicone Spray Lubricant	11.5	0.18						
WD 40	44.9	0.80						
Shellsol D60	300.2	0.85						
Sanding (usage in hours, emissions in lb/hr)	250.0				0.1	0.06		
Carpentry (usage in hours, emissions in lb/hr)	636.0				0.04	0.024		
Operate Proposed Automotive/Arts and Crafts Skills Center								
Process/Equipment Type		Annual Emissions (lb/yr)						
		VOC	CO	NOx	PM10	PM 2.5	HAPs	SOx
Copper Wire (Welding)					0.74		0.04	
Steel Stick (Welding)					0.09		0.00	
Starting Fluid		4.51						
Battery Cleaner		4.95						
White Lithium Grease		2.39					1.49	
Battery Terminal Protector		0.82					0.44	
Brake Parts Cleaner		103.95						
Engine Degreaser		0.80						
Carb and Choke Cleaner		15.02					16.20	
Fast Break Penetrant		107.83						
Silicone Spray Lubricant		2.10						
WD 40		35.89						
Shellsol D60		255.20						
Sanding					25.00	15.00		
Carpentry					25.44	15.26		
Totals (lb/yr)		533			51	30	18	

Notes:

Automobile shop usage estimated 225 percent of current usage, no change to wood shop

Emission factors from EPA, Hill AFB, and product-specific MSDS sheets

Blank cells indicate no predicted emissions

Table 5: Operational Air Emissions for the Proposed Action

If required, prior to operating the proposed action, Hill AFB air quality managers would submit notices of intent, seven day notifications, and modification requests to DAQ. Hill AFB would not be allowed to operate the facilities until DAQ concurs that federal and state requirements are being met.

Conformity Applicability Determination

Due to local non-attainment status, a conformity applicability determination (compliant with 40 CFR 93.153 and UAC R-307-115) was completed for the proposed action. The proposed action would be required to demonstrate conformity with the CAA unless an applicability determination shows that it is exempt from conformity, in this case, due to having annual emissions below the thresholds established in 40 CFR 93.153(b)(1) and (b)(2). Predicted air emissions due to construction and due to operations were all much less than the established threshold values.

Indirect Effects

During scoping and the detailed analysis, no indirect effects related to air quality were identified for the proposed action.

Cumulative Effects

Construction: Construction-related air emissions would be limited to a duration of several months. Comparing the magnitude of predicted construction-related air emissions (Table 4) to existing emissions for Hill AFB, Davis and Weber Counties (Table 2), there would not be significant cumulative effects to air quality associated with constructing the proposed action.

Operations: Hill AFB air quality managers would ensure that long-term operation of the proposed action complies with the Hill AFB Title V Permit, any relevant approval orders, EPA regulations, and the Utah SIP. Any required air quality control devices would be installed and tested prior to allowing newly installed equipment to begin operating. Comparing the magnitude of predicted operational air emissions (Table 5) to existing emissions in Hill AFB, Davis and Weber Counties (Table 2), no significant cumulative effects to air quality were identified for operating the proposed action.

4.2.2 Predicted Effects to Solid and Hazardous Waste

4.2.2.1 Alternative A: No Action

Under the no action alternative, the wastes discussed in Section 3.3.2 would continue to be generated. With respect to solid and hazardous waste, the no action alternative would have no other direct effects, no indirect effects, and no cumulative effects.

4.2.2.2 Alternative B (Proposed Action): Construct an Automotive/Arts and Crafts Skills Center

Direct Effects Due to Construction

Waste Generation: During the proposed construction activities, solid wastes expected to be generated would be construction debris consisting mainly of concrete, metal, and building materials. These items would be treated as uncontaminated trash and recycled when feasible. Any paint on pavements being removed would be tested for lead-based paint content. (see waste management below). It is possible that equipment failure or a spill of fuel, lubricants, or

construction-related chemicals could generate solid or hazardous wastes. In the event of a spill of regulated materials, Hill AFB environmental managers and their contractors would comply with all federal, state, and local spill reporting and cleanup requirements.

Waste Management: Hill AFB personnel have specified procedures for handling construction-related solid and hazardous wastes in their engineering construction specifications. The procedures are stated in Section 01000, General Requirements, Part 1, General, Section 1.24, Environmental Protection. All solid non-hazardous waste is collected and disposed or recycled on a routine basis. Hazardous wastes are stored at sites operated in accordance with the requirements of 40 CFR 265. The regulations require the generator to characterize hazardous wastes with analyses or process knowledge. Suspect waste is labeled as hazardous waste and is safely stored while analytical results are pending or until sufficient generator knowledge is obtained. Hazardous wastes are eventually labeled, transported, treated, and disposed in accordance with federal and state regulations.

Excavated Soils: There is no known soil contamination at the location of the proposed action. However, excavations could potentially encounter contaminated soil at or beneath the shallow groundwater interface. If unusual odors or soil discoloration were to be observed during any excavation or trenching necessary to complete the proposed action, the soil would be stored on plastic sheeting and the Hill AFB Environmental Restoration Branch (75 CEG/CEVR) would be notified. Any excess clean soil would either be used as fill for another on-site project or placed in the Hill AFB landfill. Any soil determined to be hazardous would be eventually labeled, transported, treated, and disposed in accordance with federal and state regulations. No soil would be taken off base without prior 75 CEG/CEVR written approval.

Direct Effects Due to Operations

Based on information received during the scoping meeting held on June 2, 2010 and subsequent discussions with the proponent, the types of solid and hazardous wastes to be generated due to operating the proposed action would be the same as for the existing facility, with one addition. Used transmission fluid would be generated at the proposed facility. Used transmission fluid would be treated as hazardous waste unless results of waste characterization indicate it could be recycled.

Water from the floor drains would flow through an oil-water separator prior to being routed to a sanitary sewer. Compared to the existing facility, which operates with only a catch basin, the oil-water separator would reduce the amount of oil and grease flowing to the local sewage treatment plant. To ensure the oil-water separator functions as intended, only non-emulsifying floor cleaning methods would be used. Building restrooms would also be connected to the sanitary sewer.

Indirect Effects

During scoping and the detailed analysis, no indirect effects related to solid and hazardous waste were identified for the proposed action.

Cumulative Effects

Proper handling of solid and hazardous waste eliminates releases of contaminants to the environment or reduces such releases in conformity with legal limits. There would be no significant cumulative solid or hazardous waste effects associated with the proposed action.

4.2.3 Predicted Effects to Water Quality

4.2.3.1 Alternative A: No Action

With respect to water quality, the no action alternative would have no direct effects, no indirect effects, and no cumulative effects.

4.2.3.2 Alternative B (Proposed Action): Construct an Automotive/Arts and Crafts Skills Center

Direct Effects Due to Construction

Based on information provided by Hill AFB engineers, the land area to be disturbed by the proposed facility would be approximately two acres in size. The proposed action would be covered under Utah's general construction permit rule for stormwater compliance. Prior to initiating any construction activities, this permit must be obtained and erosion and sediment controls must be installed according to a stormwater pollution prevention plan (SWPPP). The SWPPP would specify measures to prevent soil from leaving the construction site on the wheels of construction vehicles, thereby controlling the addition of sediments to the storm drain system. The proponents would coordinate with the Hill AFB water quality manager (75CEV/CEGOC) prior to submitting an application for a Utah construction stormwater permit.

Hill AFB construction specifications would require the contractor to restore the land to a non-erosive condition. All areas disturbed by excavation would be backfilled, and then either be covered by pavements, gravel, or re-planted, re-seeded, or sodded to prevent soil erosion.

Since the proposed action would convert a small area occupied by open land to impermeable surfaces, some increased stormwater runoff volume would be expected unless runoff controls were to be created during construction of the facility. EISA Section 438 specifies storm water runoff requirements for federal development projects. The sponsor of any development or redevelopment project involving a federal facility with a footprint that exceeds 5,000 ft² must ensure that all precipitation from the 95th percentile, 24-hour storm event is retained on site (for Hill AFB, this storm depth is 0.76 inches [Zautner 2010]). Compliance with this requirement (by designing and constructing detention and/or retention structures) would eliminate downstream effects due to creating impermeable surfaces.

Direct Effects Due to Operations

The proposed facility would be subject to Utah's general multi-sector permit rule for stormwater compliance. The *Hill AFB Stormwater Management Plan - Municipal Stormwater Permit*

establishes good housekeeping measures and other best management practices to prevent contamination of runoff.

Depth to groundwater is approximately 100 feet bgs in the vicinity of the proposed action. Since the proposed action would not require excavations deeper than approximately ten feet bgs (for footings, foundations, and on-site utilities), no direct groundwater effects were identified for the proposed action.

Indirect Effects

As discussed in Section 3.3.3, the proposed action would be located within DWSP Zone 4 related to Hill AFB Well 5. The proposed action would be subject to the *Updated Drinking Water Source Protection Plan, Hill Air Force Base Well 5* (Stantec 2008). Potential contamination sources must be adequately controlled. Facility design and operating standards would be based on good housekeeping measures and other best management practices. Additionally, Hill AFB would consult with Utah's Division of Drinking Water regarding potential sources of contamination and best management practices to ensure drinking water source protection.

Cumulative Effects

Water quality would be protected during and after construction activities. There would be no significant cumulative water quality effects associated with the proposed action.

4.3 Summary Comparison of Predicted Environmental Effects

Issue	Alternative A No Action	Alternative B Proposed Action
Air Quality	The existing facility has air emissions from welding, various spray cans, a parts washer, and woodworking. Existing air emissions are 0.12 tons per year or less of each criteria pollutant, and eight pounds of HAPs.	Construction equipment would create temporary emissions. Fugitive dust emissions would be controlled. Criteria pollutant emissions are predicted to rise by much less than one ton per year. Emissions of HAPs are predicted to rise by only a few pounds per year. Conformity with the Clean Air Act was demonstrated.
Solid and Hazardous Waste	Solid and liquid wastes are properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater flows to an existing sanitary sewer.	If contaminated soils or pavements are identified, they would be properly handled during the construction process. Operational activities would generate the same types of waste as the existing facility, with the addition of used transmission fluid. Solid and liquid wastes would all be properly contained, stored, transported, disposed, re-used, and/or recycled. Use of an oil-water separator would reduce the amount of oil and grease flowing to the local sewage treatment plant.
Water Quality	No effects.	During construction and operations, water quality would be protected by implementing stormwater management practices. Precipitation from the 95th percentile, 24 hour storm event would be retained on site. Drinking water sources would be protected by incorporating good housekeeping measures and other best management practices into facility design and operations.

Table 6: Summary Comparison of Predicted Environmental Effects

5.0 LIST OF PREPARERS

Streamline Consulting, LLC

1713 N. Sweetwater Lane, Farmington UT 84025

Randal B. Klein, P.E., Project Manager, (801) 451-7872

Civil Engineer Group, Environmental Division, 75 CEG/CEV

7274 Wardleigh Road, Hill AFB UT 84056

Sam Johnson, NEPA Manager, (801) 775-3653

EMAssist, Inc.

7274 Wardleigh Road, Hill AFB UT 84056

Mark Kaschmitter, Air Regulatory Analysis, (801) 775-2359

CH2M HILL, Inc.

7274 Wardleigh Road, Hill AFB UT 84056

Sara Van Klooster, Air Emissions Reporting, (801) 775-5173

6.0 LIST OF PERSONS AND AGENCIES CONSULTED

Civil Engineer Group, Environmental Division, 75 CEG/CEV

7274 Wardleigh Road, Hill AFB UT 84056

Sam Johnson, NEPA Manager, (801) 775-3653

Jaynie Hirschi, Archaeologist, (801) 775-6920

Russ Lawrence, Natural Resources Manager, (801) 777-6972

Mike Petersen, Water Quality Manager, (801) 775-6904

Civil Engineer Organizations, 75 CEG and 75 CES

5713 Lahm Lane, Building 593N, Hill AFB UT 84056

Steven Weed, MILCON Project Programmer, (801) 777-2580

Marlono Laughter, Project Manager, (801) 777-1647

Force Support Squadron, 75 FSS

Building 534, Hill AFB UT 84056

David Ovard, Arts and Crafts Manager, (801) 586-0566

Kevin Henrie, Automotive Hobby Shop Manager, (801) 777-3476

Connie Delamater, Readiness Officer, (801) 777-3667

7.0 REFERENCES

CFR: *Code of Federal Regulations*, US Government Printing Office, Office of the Federal Register (various sections and dates).

DAQ 2007: *Utah's Area Designation Recommendation for the 2006 PM_{2.5} NAAQS*, Utah Division of Air Quality, December, 2007.

DAQ 2010a: *State of Utah National Ambient Air Quality Standards, Areas of Non-Attainment and Maintenance (Updated March 2010)*, Utah Division of Air Quality Website, March, 2010.

DAQ 2010b: *Division of Air Quality Annual Report for 2009*, Utah Division of Air Quality, January, 2010.

EPA 1991: *Nonroad Engine and Vehicle Emission Study - Report*, Table 2-07a, US Environmental Protection Agency, 1991.

EPA 2010: *County Emissions Report - Hazardous Air Pollutants*, EPA, June, 2010.

Hill AFB: *Construction Specifications, Section 01000, General Requirements, Part 1, General, Section 1.24, Environmental Protection*, Hill AFB, UT, current version.

Hill 2005: *Memorandum of Agreement Between the United States Air Force and the Utah State Historic Preservation Officer Pursuant to 36 CFR Section 800 Regarding the Demolition of Five 800-Zone Historic Buildings, Hill Air Force Base, Utah*, March, 2005.

Hill 2007a: *Integrated Cultural Resources Management Plan*, Hill AFB, 2007.

Hill 2007b: *Integrated Natural Resources Management Plan*, Hill AFB, 2007.

Hill 2008: *Internal Needs Validation Study*, Hill AFB, December 12, 2008.

Hill 2010: *2009 Annual Criteria and Toxic Pollutant Emission Inventory*, Hill AFB, prepared by CH2M HILL, April, 2009.

Stantec 2007: *Hill AFB Stormwater Management Plan - Municipal Stormwater Permit*, Stantec Consulting, April, 2007.

Stantec 2008: *Updated Drinking Water Source Protection Plan, Hill Air Force Base Well 5*, Stantec Consulting, May, 2008.

UGS 1994a: *Earthquake Ground Shaking in Utah*, Utah Geological Survey, 1994.

UGS 1994b: *Liquefaction Potential for a Part of Weber County, Utah*, Utah Geological Survey, 1994.

UGS 2009: *Earthquake Fault Map of a Portion of Weber County, Utah*, Utah Geological Survey, current on website as of March, 2009.

WFRC 2003: *Natural Hazard Pre-Disaster Mitigation Plan, Utah's Wasatch Front*, Wasatch Front Regional Council, December, 2003.

Zautner 2004: *Hill AFB 95th Percentile 24-hour Precipitation Amount*, Jeffrey H. Zautner, Meteorologist, Air Force Combat Climatology Center, June 10, 2010.

APPENDIX A

CULTURAL RESOURCES MEMORANDUM OF AGREEMENT

**MEMORANDUM OF AGREEMENT
BETWEEN
THE UNITED STATES AIR FORCE
AND THE UTAH STATE HISTORIC PRESERVATION OFFICER
PURSUANT TO 36 CFR § 800
REGARDING THE DEMOLITION OF FIVE 800-ZONE HISTORIC BUILDINGS,
HILL AIR FORCE BASE, UTAH**

WHEREAS, Hill Air Force Base (AFB) has determined that the proposed demolition of five historic buildings (Appendix A) is a necessary action that constitutes an undertaking that will have an adverse effect on properties that are eligible for inclusion in the National Register of Historic Places (NRHP); and

WHEREAS, Hill AFB has consulted with the Utah State Historic Preservation Office (SHPO) in accordance with Section 106 of the National Historic Preservation Act, 16 U.S.C. §470, and its implementing regulations (36 CFR § 800); and

WHEREAS, Hill AFB, in consultation with the Utah SHPO, and after consideration of Hill AFB requirements as well as public benefit, has determined an appropriate mitigation that will be pursued; and

NOW THEREFORE, Hill AFB and the Utah SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to mitigate the adverse effect caused by the undertaking.

STIPULATIONS

- 1. PUBLIC OUTREACH:** The Hill AFB Cultural Resources Public Outreach Web Site (Web Site) will be updated and major improvements will be made to better facilitate the public's access to information regarding historic structures on Hill AFB managed lands. New information will be added to the interactive building map, including updated NRHP eligibility status, and the map will be completed so that every eligible building on Hill AFB managed lands will be linked to detailed information and pictures. In addition, the Hill AFB interactive building map will be modified so that it is more user-friendly and the public will be able to better navigate the map. After these updates are implemented Hill AFB will continue to maintain the website.
- 2. PHOTOGRAPHS/DRAWINGS:** Photographs are required of representative types of the buildings cited for demolition in Appendix A. It will be confirmed that an adequate number of professional quality black and white negative photographs, in archival stable protective storage pages, along with associated as-built drawings, architectural elevations, and Historic American Engineering Record (HAER) documentation have been submitted to the Utah SHPO. It will be ensured that photographs are numbered and labeled with the address and the date that the photograph was taken, and that these photographs are keyed to a floor plan and site map. It shall be noted that if additional documentation is necessary, the photographs, as-built drawings, and architectural elevations will first be screened by Hill AFB Security personnel, and any particular information will not be publicly released if doing so would create an unreasonable

security risk or violates any valid Federal security law or regulation. It is anticipated that no restrictions will be imposed if additional documentation is needed.

Additionally, an adequate number of high quality digital photographs and their associated as-built drawings, architectural elevations, and HAER documentation detailing all areas to be impacted by the undertaking shall be posted to the Hill AFB Cultural Resources Public Outreach Web Site. Photographs, as-built drawings, architectural elevations, and HAER documentation shall be inserted into a slide show situated on a map of Hill AFB to show context. Photographs, as-built drawings, architectural elevations, and HAER documentation proposed for inclusion in the Web Site will first be screened by Hill AFB Security personnel and any particular information will not be publicly released if doing so would create an unreasonable security risk or violates any valid Federal security law or regulation. Classified or national security sensitive information, if any, regarding building design or function shall not be posted in violation of Federal law. Any information posted to the Web Site is subject to future removal if valid Federal security laws or regulations change in the future and such law or regulation prohibits such posting. It is anticipated that no restrictions will be imposed if additional documentation is needed.

3. INTENSIVE LEVEL SURVEY (ILS) FORM: It will be confirmed that an ILS form has been completed according to basic survey standards for a representative type of each building and submitted to the Utah SHPO.


Additionally, portions of the Utah State Historic Site form shall be posted with the corresponding photographs, as-built drawings, architectural elevations, or HAER documentation on the Web Site. While the entire site form will not be posted, the most relevant portions of the site form, Parts 4 and 5, Architectural Description and History, will be posted together with photographs as-built drawings, architectural elevations, or HAER documentation subject to the security restrictions cited above in Section 3.

4. DISPUTE RESOLUTION: Should the Utah SHPO or Hill AFB object within thirty (30) days to any actions proposed pursuant to this MOA, Hill AFB shall consult with the Utah SHPO to resolve the objection. If Hill AFB determines that the objection cannot be resolved, Hill AFB shall request the comments of the Advisory Council on Historic Preservation (Council) pursuant to 36 CFR § 800.7. Any Council comment provided in response to such a request will be taken into account by Hill AFB in accordance with 36 CFR § 800.7(c)(4) with reference only to the subject of the dispute; Hill AFB's responsibility to carry out all actions under this MOA that are not the subject of this dispute will remain unchanged.

5. EFFECTIVE DATE and DURATION: This MOA shall become effective upon execution by both parties. If, after three (3) years, any of the stipulations of this MOA have not been fulfilled, Hill AFB will notify the Utah SHPO and determine whether the MOA needs to be revised.

Execution of this MOA by Hill AFB and the Utah SHPO, and implementation of its terms, evidence that Hill AFB has taken into account the effects of the proposed demolitions on historic properties and mitigated the adverse effect.

DEPARTMENT OF THE AIR FORCE

By:  Date: 20 Feb 05
SHARON K. G. DUNBAR, Colonel, USAF
Commander, 75th Air Base Wing

UTAH STATE HISTORIC PRESERVATION OFFICER

By:  Date: 3/29/05
Utah State Historic Preservation Officer

APPENDIX A – BUILDINGS PROPOSED FOR DEMOLITION

Installation	Building Number	Building Name	Year	Eligibility	Justification
Hill	800	Warehouse Supply & Equipment Depot	1943	Eligible	WW II Significance
Hill	810	Warehouse Supply & Equipment Depot	1943	Eligible	WW II Significance
Hill	820	Warehouse, Form & Pub Base	1943	Eligible	WW II Significance
Hill	830	Warehouse Supply & Equipment Depot	1943	Eligible	WW II Significance
Hill	840	Warehouse Supply & Equipment Depot	1943	Eligible	WW II Significance

APPENDIX B

CULTURAL RESOURCES FINDING OF NO ADVERSE EFFECT



State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Department of Community and Culture

PALMER DePAULIS
Executive Director

State History

PHILIP F. NOTARIANNI
Division Director

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JUL 28 2010
BY: *ll*

July 21, 2010

ll (26) CEVP

Robert T. Elliott, P.E., YF-02, DAF
Chief, Environmental Management Division
75 CEG/CEV
7274 Wardleigh Road
Hill Air Force Base Utah 84056-5137

RE: Automotive/Arts and Crafts Skills Center at the Hill Air Force Base

In Reply Please Refer to Case No. 10-1111

Dear Mr. Elliott:

The Utah State Historic Preservation Office received your request for our comment on the above-referenced project on July 13, 2010. From the information you provided, it appears that no cultural resources were located in the project Area of Potential Effects. We concur with your determination of **No Historic Properties Affected** for this project.

This letter serves as our comment on the determinations you have made, within the consultation process specified in §36CFR800.4. If you have questions, please contact me at 801-533-3555 or Lhunsaker@utah.gov or contact Jim Dykman at 801-533-3523 or Jdykman@utah.gov

Sincerely,

[Handwritten signature of Lori Hunsaker]

Lori Hunsaker
Deputy State Historic Preservation Officer
Archaeology

STATE
HISTORY

UTAH STATE HISTORICAL SOCIETY
ANTIQUITIES
HISTORIC PRESERVATION
RESEARCH CENTER & COLLECTIONS

CEV	CEVC	CEVP	<input checked="" type="checkbox"/>
CEVR	JACE	PA	<input checked="" type="checkbox"/>

FINDING OF NO SIGNIFICANT IMPACT

1. **NAME OF ACTION:** Proposed Automotive/Arts and Crafts Skills Center, Hill Air Force Base, Utah.
2. **DESCRIPTION OF THE PROPOSED ACTION:** Hill Air Force Base (AFB) proposes to accommodate current United States Air Force (USAF) missions by providing adequate facilities for hobby enthusiasts, including automotive maintenance, engraving, framing, and woodworking. The proposed action would be located west of F Avenue on Hill AFB.
3. **SELECTION CRITERIA:** The following criteria were used to assemble alternatives.

The automotive/arts and crafts skills center on Hill AFB should:

- be located in the community area as defined in the Hill AFB general plan
- provide sufficient area for 22,300 square feet (ft²) of structures, plus driveways and parking
- not encroach upon existing facilities
- not encroach upon other previously approved construction perimeters for upcoming base facilities
- be adjacent to existing utilities

4. ALTERNATIVES CONSIDERED OTHER THAN THE PROPOSED ACTION:

Under the no action alternative, a new automotive/arts and crafts skills center would not be constructed, and adequate facilities would not be provided. The existing facility would operate as it currently exists. Deficiencies would continue to exist.

Alternative C, renovating and expanding the existing facility, could not meet the criterion for square footage and will not be considered in detail. The internal needs validation study published in October, 2008 stated the existing facility is located in an area with no room for growth.

Alternative D, constructing the facility to the south of Bldg. 412 and west of Bldg. 418, did not meet the criterion for square footage and will not be considered in detail.

Alternative E, constructing the facility to the south of Bldg. 830, did not meet the criterion for not encroaching upon other previously approved construction perimeters for upcoming base facilities (a consolidated training center), and will not be considered in detail.

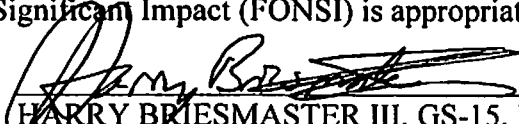
Alternative F, constructing the facility to the east of Bldg. 825, did not meet the criterion for not encroaching upon existing facilities (a Defense Logistics Agency storage area) and will not be considered in detail.

5. SUMMARY OF ANTICIPATED ENVIRONMENTAL EFFECTS:

Issue	Alternative A No Action	Alternative B Proposed Action
Air Quality	The existing facility has air emissions from welding, various spray cans, a parts washer, and woodworking. Existing air emissions are 0.12 tons per year or less of each criteria pollutant, and eight pounds of hazardous air pollutants (HAPs).	Construction equipment would create temporary emissions. Fugitive dust emissions would be controlled. Criteria pollutant emissions are predicted to rise by much less than one ton per year. Emissions of HAPs are predicted to rise by only a few pounds per year.
Solid and Hazardous Waste	Solid and liquid wastes are properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater flows to an existing sanitary sewer.	If contaminated soils or pavements are identified, they would be properly handled during the construction process. Operational activities would generate the same types of waste as the existing facility, with the addition of used transmission fluid. Solid and liquid wastes would all be properly contained, stored, transported, disposed, re-used, and/or recycled. Use of an oil-water separator would reduce the amount of oil and grease flowing to the local sewage treatment plant.
Water Quality	No effects.	During construction and operations, water quality would be protected by implementing stormwater management practices. Precipitation from the 95th percentile, 24 hour storm event would be retained on site.

6. FINDING OF NO SIGNIFICANT IMPACT: Based on the above considerations, a Finding of No Significant Impact (FONSI) is appropriate for this assessment.

Approved by:


HARRY BRIESMASTER III, GS-15, DAF
Director, 15th Civil Engineer Group

Date: 14 Oct 10